[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-2462; Directorate Identifier 2014-NM-224-AD; Amendment

39-18515; AD 2016-10-04]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. This AD was prompted by reports of cracked antenna support channels, skin cracking underneath the number 2 very high frequency (VHF) antenna, and cracking in the frames attached to the internal support structure. This AD requires repetitive inspections to determine the condition of the skin and the internal support structure, and follow-on actions including corrective action as necessary. We are issuing this AD to detect and correct skin cracking of the fuselage. Such cracking could result in separation of the number 2 VHF antenna from the airplane and rapid depressurization of the cabin.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707,

MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet https://www.myboeingfleet.com. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2015-2462.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2015-2462; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Jennifer Tsakoumakis, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5264; fax: 562-627-5210; email: jennifer.tsakoumakis@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. The NPRM published in the <u>Federal</u> Register on July 20, 2015 (80 FR 42756) ("the NPRM"). The NPRM was prompted by reports of cracked antenna support channels, skin cracking underneath the number 2 VHF

antenna, and cracking in the frames attached to the internal support structure. The NPRM proposed to require repetitive inspections to determine the condition of the skin and the internal support structure, and follow-on actions including corrective action as necessary. We are issuing this AD to detect and correct skin cracking of the fuselage. Such cracking could result in separation of the number 2 VHF antenna from the airplane and rapid depressurization of the cabin.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment. Boeing concurred with the NPRM.

Request to Correct a Typographical Error in Paragraph (h)(4) of the Proposed AD

Southwest Airlines requested that we correct a typographical error in paragraph (h)(4) of the proposed AD, which states that accomplishment of the preventative modification terminates the inspection required by "paragraphs (g), (g)(1), and (h)(2) of the AD." Southwest Airlines noted that the NPRM does not contain paragraph (g)(1). Southwest Airlines concluded that this appears to be a typographical error and the references to paragraphs (g) and (g)(1) of the proposed AD should be to paragraphs (h) and (h)(1) of the proposed AD, similar to what is stated in paragraph (k)(3) of the proposed AD.

British Airways stated that it has identified a potential contradiction between paragraphs (h)(4) and (k)(3) of the proposed AD. British Airways stated that paragraph (h)(4) of the proposed AD refers to paragraph (h)(2), whereas paragraph (k)(3) of the proposed AD refers to paragraphs (h), (h)(1), and (h)(2) of the proposed AD.

We agree to revise paragraph (h)(4) of this AD because there is a typographical error. We have changed the references in paragraph (h)(4) of this AD to specify

paragraphs (h), (h)(1), and (h)(2) of this AD. This change resolves the contradiction noted by British Airways.

Request a Provision to Terminate Inspections Required by Paragraph (h) of the Proposed AD

Southwest Airlines requested that we provide a provision to terminate the inspections required by paragraph (h) of the proposed AD for previously installed repairs that have received FAA approval. The commenter stated that these repairs would inhibit the inspections required by paragraph (h) of this AD.

We do not agree with the commenter's request because previously installed FAA-approved repairs may not have been designed to address the specified unsafe condition identified in this AD. We understand that some of these repairs may not allow inspection of the area specified in the AD; in those cases, the operator must request approval for an alternative method of compliance (AMOC) according to paragraph (m) of this AD. We have not revised this AD in this regard.

Request to Add Terminating Action to Paragraphs (h)(1) and (h)(2) of the Proposed AD

British Airways asked why the terminating action specified in paragraph (k)(3) of the proposed AD is not included in the text "until the accomplishment of paragraphs" references in paragraphs (h)(1) and (h)(2) of the proposed AD. We infer British Airways is requesting that we revise paragraphs (h)(1) and (h)(2) of the proposed AD.

We agree with the commenter because installation of the preventive modification in accordance with paragraph (k)(3) of this AD is acceptable for terminating the repetitive inspections. In addition, we note the reference to paragraph (k)(1) of this AD in paragraph (h)(2) of this AD is redundant. We have made the following changes to this AD:

• In paragraph (h)(1) of this AD, we specify to repeat the inspections "until the accomplishment of paragraph (k)(1), (k)(2), or (k)(3) of this AD, as applicable."

• In paragraph (h)(2) of this AD, we specify to repeat the inspections "until the accomplishment of paragraph (k)(2) or (k)(3) of this AD, as applicable."

Request to Correct the Language in Paragraph (h)(2) of the Proposed AD

Southwest Airlines requested a correction to the language in paragraph (h)(2) of the proposed AD to add the term "as applicable" after the listed inspections. Southwest Airlines stated that there are multiple sections of Part 2 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014. Southwest Airlines noted that each group/configuration has its own Part 2 instructions and that Groups 3 through 6, Configurations 2 and 3, do not contain instructions for internal detailed inspections or internal high frequency eddy current inspections.

We agree with the commenter because certain inspections are applicable to only certain configurations. We have added the language "as applicable" to paragraph (h)(2) of this AD.

Request to Revise Certain Paragraphs to Include a Terminating Action for the Preventive Modification

Southwest Airlines requested that we revise paragraph (k)(2) of the proposed AD to include a statement that accomplishment of the repair specified in paragraph (h)(3) of the proposed AD also terminates the preventive modification specified in paragraph (h)(4) of the proposed AD. Southwest Airlines stated that there is no language in the NPRM or Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, that states whether the preventative modification is required after the repair is installed.

We do not agree with the commenter's request because, for some airplane configurations, the repair only installs an external skin doubler and the preventative modification includes replacement of the internal support structure. For some airplane

configurations, the preventive modification specified in Part 4 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, is required after installation of the repair specified in Part 3 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014. We have not revised this AD in this regard.

Request to Provide Statement for Terminating Actions in Paragraph (k)(2) of the Proposed AD

Southwest Airlines requested that we revise paragraph (k)(2) of the proposed AD to specify the repair also terminates the initial inspections in paragraph (h) of the proposed AD. Southwest Airlines stated that the current statement in paragraph (k)(2) of the proposed AD does not address a terminating action for the initial inspection specified in paragraphs (h)(1) and (h)(2) of the proposed AD for aircraft that have previously installed the repair specified in paragraph (h)(3) of the proposed AD.

We agree with the commenter's request because repairs installed in accordance with Part 3 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, prior to the effective date of this AD, will not allow accomplishment of the initial inspections as specified in paragraph (h) of this AD. We revised paragraph (k)(2) of this AD to specify that accomplishment of the repair required by paragraph (h)(3) of this AD terminates the initial and repetitive inspections required in paragraphs (h), (h)(1), and (h)(2) of this AD.

Effect of Winglets on Accomplishment of the Proposed Actions

Aviation Partners Boeing stated that accomplishing Supplemental Type Certificate (STC) ST01219SE

(http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/be866b732f6cf3108625 7b9700692796/\$FILE/ST01219SE.pdf) does not affect the actions specified in the NPRM.

We concur with the commenter. We have redesignated paragraph (c) of the proposed AD as paragraph (c)(1) of this AD and added new paragraph (c)(2) to this AD to state that installation of STC ST01219SE does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST01219SE is installed, a "change in product" AMOC approval request is not necessary to comply with the requirements of 14 CFR 39.17.

Change to Paragraph (j) of this AD

We have revised paragraph (j) of this AD to clarify that the post-repair and post-modification inspections are airworthiness limitations that are required by maintenance and operational rules; therefore, these inspections are not required by this AD.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information under 1 CFR part 51

We reviewed Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014. The service information describes procedures for repetitive inspections to determine the condition of the skin and the internal support structure, and

follow-on actions including corrective action as necessary. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 609 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections	33 work-hours X \$85 per hour = \$2,805 per inspection cycle	\$0	\$2,805 per inspection cycle	\$1,708,245 per inspection cycle

We estimate the following costs to do any necessary repairs/modifications that would be required based on the results of the inspections. We have no way of determining the number of aircraft that might need these repairs/modifications.

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Repair and preventive modification	63 work-hours X \$85 per hour = \$5,355	\$10,432	\$15,787

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
 - (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2016-10-04 The Boeing Company: Amendment 39-18515; Docket No. FAA-2015-2462; Directorate Identifier 2014-NM-224-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

- (1) This AD applies to The Boeing Company Model 737-100, -200, -200C, -300,
 -400, and -500 series airplanes, certificated in any category, as identified in Boeing
 Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014.
- (2) Installation of Supplemental Type Certificate (STC) ST01219SE (http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgstc.nsf/0/be866b732f6cf3108625 7b9700692796/\$FILE/ST01219SE.pdf) does not affect the ability to accomplish the actions required by this AD. Therefore, for airplanes on which STC ST01219SE is installed, a "change in product" alternative method of compliance (AMOC) approval request is not necessary to comply with the requirements of 14 CFR 39.17.

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD was prompted by reports of cracked antenna support channels, skin cracking underneath the number 2 VHF antenna, and cracking in the frames attached to the internal support structure. We are issuing this AD to detect and correct skin cracking of the fuselage. Such cracking could result in separation of the number 2 VHF antenna from the airplane and rapid depressurization of the cabin.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Inspection and Follow-on Actions: Group 1

For airplanes identified as Group 1 in Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014: Within 120 days after the effective date of this AD, inspect for cracking at the number 2 VHF antenna location, and do all applicable follow-on actions, using a method approved in accordance with the procedures specified in paragraph (m) of this AD.

(h) Inspection and Follow-on Actions: Groups 2 through 6, Configurations 1 through 3

For airplanes identified as Groups 2 through 6, Configurations 1 through 3 in Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014: Within 1,250 flight cycles after the effective date of this AD, do an external detailed inspection for cracking of the fuselage skin, as applicable, and do all applicable corrective actions, in accordance with Part 1 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014. Thereafter, at the applicable time specified in paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, except as required by paragraph (l)(1) of this AD: Do all applicable actions specified in paragraphs (h)(1) through (h)(4) of this AD.

- (1) Repeat the Part 1 inspections specified in paragraph (h) of this AD until the accomplishment of paragraph (k)(1), (k)(2), or (k)(3) of this AD, as applicable.
- (2) Inspect for cracking at the number 2 VHF antenna location using internal and external detailed inspections, internal and external high frequency eddy current (HFEC) inspections, and an HFEC open-hole inspection, as applicable, in accordance with Part 2 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014. Repeat the inspections until the accomplishment of paragraph (k)(2) or (k)(3) of this AD, as applicable.
- (3) Repair any crack found, in accordance with Part 3 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, except as required by paragraph (1)(2) of this AD.
- (4) Do a preventive modification, in accordance with Part 4 of the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, except as specified in paragraph (1)(2) of this AD. The accomplishment of this preventive modification terminates the inspections required by paragraphs (h), (h)(1), and (h)(2) of this AD.

(i) Inspection and Follow-on Actions: Groups 3 through 6, Configuration 4

For airplanes identified as Groups 3 through 6, Configuration 4, in Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014: At the applicable time specified in table 10 of paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, except as required by paragraph (I)(1) of this AD, do an external detailed inspection for cracking at the outer row of fasteners common to the internal repair doubler, and do an internal general visual inspection for cracking on the modified internal support structure of the number 2 VHF antenna, skin, and surrounding stringers, channel, and frames, in

accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014.

- (1) If any cracking is found, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (m) of this AD.
- (2) If no cracking is found, repeat the inspections at the time specified in table 10 of paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014.

(j) Post Repair/Post Modification Inspections

Tables 7 through 9 of paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, specify post-repair and post-modification airworthiness limitation inspections in compliance with 14 CFR 25.571(a)(3) at the repaired and modified locations, which support compliance with 14 CFR 121.1109(c)(2) or 129.109(b)(2). As airworthiness limitations, these inspections are required by maintenance and operational rules. It is therefore unnecessary to mandate them in this AD. Deviations from these inspections require FAA approval, but do not require an alternative method of compliance.

(k) Terminating Action Provisions

The following describes terminating action for the airplane groups and configurations, as identified in Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014.

- (1) For airplanes in Group 2, Configuration 2; and Groups 3 through 6,
 Configuration 2: Accomplishment of the inspections specified in paragraph (h)(2) of this
 AD terminates the repetitive inspection requirements of paragraph (h)(1) of this AD.
- (2) For airplanes in Group 2, Configuration 1; and Groups 3 through 6, Configurations 1, 2, and 3: Accomplishment of the repair specified in paragraph (h)(3) of

this AD terminates the initial and repetitive inspections specified in paragraphs (h), (h)(1), and (h)(2) of this AD.

(3) For airplanes in Group 2, Configuration 1; and Groups 3 through 6, Configurations 1 and 3: Accomplishment of the preventive modification specified in paragraph (h)(4) of this AD terminates the initial and repetitive inspections specified in paragraphs (h), (h)(1), and (h)(2) of this AD.

(l) Exception to Service Bulletin Specifications

- (1) Where Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, specifies a compliance time "after the Revision 1 date of this service bulletin," this AD requires compliance within the specified compliance time after the effective date of this AD.
- (2) Where Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014, specifies to contact Boeing for appropriate action, and specifies that action as "RC" (Required for Compliance): Before further flight, repair the cracking using a method approved in accordance with the procedures specified in paragraph (m) of this AD.

(m) Alternative Methods of Compliance (AMOCs)

- (1) The Manager, Los Angeles Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (n) of this AD. Information may be emailed to:
- 9-ANM-LAACO-AMOC-REQUESTS@faa.gov.

- (2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.
- (3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Los Angeles ACO, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.
- (4) Except as required by paragraph (1)(2) of this AD, for service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (m)(4)(i) and (m)(4)(ii) apply.
- (i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. An AMOC is required for any deviations to RC steps, including substeps and identified figures.
- (ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(n) Related Information

For more information about this AD, contact Jennifer Tsakoumakis, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles ACO, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5264; fax: 562-627-5210; email: jennifer.tsakoumakis@faa.gov.

(o) Material Incorporated by Reference

- (1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.
- (2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.
- (i) Boeing Special Attention Service Bulletin 737-53-1159, Revision 1, dated October 20, 2014.
 - (ii) Reserved.
- (3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet https://www.myboeingfleet.com.
- (4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.
- (5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued in Renton, Washington, on May 4, 2016.

Michael Kaszycki,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

[FR Doc. 2016-11200 Filed: 5/13/2016 8:45 am; Publication Date: 5/16/2016]